Lobachevskii Journal of Mathematics 2014 vol.35 N4, pages 317-326

CS-Rickart modules

Abyzov A., Nhan T.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2014, Pleiades Publishing, Ltd. In this paper, we introduce and study the concept of CS-Rickart modules, that is a module analogue of the concept of ACS rings. A ring R is called a right weakly semihereditary ring if every its finitly generated right ideal is of the form P ⊕ S, where PR is a projective module and SR is a singular module. We describe the ring R over which Matn(R) is a right ACS ring for any n ∈ N. We show that every finitely generated projective right R-module will to be a CS-Rickart module, is precisely when R is a right weakly semihereditary ring. Also, we prove that if R is a right weakly semihereditary ring, then every finitely generated submodule of a projective right R-module has the form P1 ⊕ ... ⊕ Pn ⊕ S, where every P1, ..., Pn is a projective module which is isomorphic to a submodule of RR, and SR is a singular module. As corollaries we obtain some well-known properties of Rickart modules and semihereditary rings.

http://dx.doi.org/10.1134/S199508021404009X

Keywords

ACS rings, CS-Rickart modules, Rickart modules, semihereditary rings